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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/814,872

03/31/2004

Yu-Chuan Liu

TEK-002006

7395

7590

04/07/2006

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EXAMINER

LANDAU, MATTHEW C

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 04/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/814,872		LIU ET AL.	
	Examiner		Art Unit	
	Matthew Landau		2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 15-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/7/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group I, claims 1-14, in the reply filed on January 11, 2006 is acknowledged.

Claims 15-23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 3, 6-9, and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation "the stack". There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "the second cladding layer". There is insufficient antecedent basis for this limitation in the claim.

Regarding claims 3, 7-9, and 11, the phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-11, 13, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Yoo (US Pat. 6,841,802).

Regarding claim 1, Figure 7 of Yoo discloses a light emitting device comprising: a multi-layer structure including one or more semiconductor layers (34/36/38/40), wherein an active layer 38 of the multi-layer structure is configured to emit a first light radiation (blue light) (col. 4, lines 63-65); and a cap layer (80/86) covering surface areas of the multi-layer structure while leaving exposed electrode areas defined on the multi-layer structure, wherein the cap layer includes a luminescent material compound 86 (phosphor) capable of emitting at least one second light radiation when stimulated by the first light radiation (col. 6, lines 34-42).

Regarding claims 2-4, Figure 7 of Yoo discloses a first area (right side) of the multi-layer structure encompasses the stack of a sapphire substrate 32 (col. 4, line 65), a first cladding layer 36 (n-GaN) (col. 4, lines 65-67), and a first ohmic contact layer 48, and a second area of the

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multi-layer structure encompasses the stack of the substrate, the first cladding layer, the active layer 38, and a second ohmic contact layer 42.

Regarding claim 5, Yoo discloses the active layer includes a multi-quantum well (MQW) structure (col. 5, line 1).

Regarding claim 6, Figure 7 of Yoo discloses a second cladding layer 40 includes p-GaN (col. 5, line 3).

Regarding claim 7, Yoo discloses the first ohmic contact layer includes Cr or Au (col. 5, lines 15-17). As best the examiner can ascertain the claimed invention, a layer of Cr or Au can be considered to read on the limitation "or the like".

Regarding claims 8 and 9, Yoo discloses the second ohmic contact layer 42 is Ni/Au or ITO (col. 5, lines 5-7).

Regarding claim 10, Figure 7 of Yoo discloses the cap layer 80/86 is made of a material blend including a passivation material 80 (SiO_2) and a luminescent material compound 86 (phosphor) (col. 6, lines 20-22 and 35-37).

Regarding claim 11, Yoo discloses the passivation material 80 is SiO_2 that is spin-coated (col. 6, lines 20-28). Therefore, Yoo discloses the passivation material is spin-on glass.

Regarding claim 13, Figure 7 of Yoo discloses a plurality of connecting pads (46 and 50) are respectively formed on the electrode areas of the multi-layer structure.

Regarding claim 14, Figure 7 of Yoo discloses the connecting pads (46 and 50) are made of conductive metallic material (Au) (col. 5, lines 10-18).

Claims 1, 10, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Furukawa et al. (US Pat. 6,504,181, hereinafter Furukawa).

Regarding claim 1, Figures 3 and 6 of Furukawa discloses a light emitting device comprising: a multi-layer structure including one or more semiconductor layers (16-20); wherein an active layer 17 of the multi-layer structure is configured to emit a first light radiation (blue light) (col. 3, lines 55-58); and a cap layer (23) covering surface areas of the multi-layer structure while leaving exposed electrode areas defined on the multi-layer structure, wherein the cap layer includes a luminescent material compound capable of emitting at least one second light radiation when stimulated by the first light radiation (col. 3, lines 55-58).

Regarding claims 10 and 12, Furukawa discloses the cap layer 23 is made of a material blend including a passivation material and a luminescent material compound, wherein the luminescent material compound includes a phosphor (col. 3, lines 35 and 36 and col. 5, lines 38-43). Note that whether or not the phosphor is/was a powder is merely a product-by-process limitation that does not structurally distinguish the claimed invention over the prior art. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966. As long as the material has a phosphor mixed in, the limitation is met.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 102(b) as anticipated by Furukawa or, in the alternative, under 35 U.S.C. 103(a) as obvious over Furukawa in view of Yoo.

Regarding claim 11, Furukawa does not specifically disclose the material of the passivation layer 23. However, whatever material the passivation layer 23 is made of can be considered to read on the limitation "or the like" (in light of the 112, 2nd paragraph rejection set forth above). If for some reason the material of the passivation layer cannot be considered to read on "or the like", it would have been obvious to use a spin-on glass passivation material as taught by Yoo (col. 6, lines 20-28) for the purpose of using a well known passivation material that can be uniformly deposited.

Conclusion

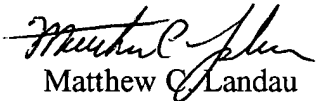
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Landau whose telephone number is (571) 272-1731.

The examiner can normally be reached from 8:30 AM - 5:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Parker can be

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reached on (571) 272-2298. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and (571) 273-8300 for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should any questions arise regarding access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Matthew C. Landau

March 31, 2006